

REPORT ON OIL ENGINE MACHINERY.

No. 6340

Received at London Office 27 DEC 1928

Date of writing Report 4/12 1928 When handed in at Local Office 4/12/28 io Port of Kobe
 No. in Survey held at Harima Dockyard Date, First Survey 29th Oct. 1928 Last Survey 24 Nov. 1928
 Reg. Book. 72571 on the Single Screw vessel "TAIJIN MARU" Ex "HALLFRIED" Number of Visits 8
 Tons ^{Gross} 5154.91 _{Net} 3653.75
 Built at Rotterdam By whom built Waf. & W. Rijkse & Co Yard No. 162 When built 1922
 Engines made at Amsterdam By whom made Werkspoor Engine No. When made 1922
 Donkey Boilers made at do By whom made do Boiler No. 1375 When made 1921
 Brake Horse Power Owners TAIYO KAIUN KAB. KAISHA Port belonging to FUCHU
 Nom. Horse Power as per Rule 563 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended America (North & South) Australia & Japan.

OIL ENGINES, &c. Type of Engines Werkspoor Diesel 2 or 4 stroke cycle 4 Single or double acting Single
 Maximum pressure in cylinders 500 lbs Diameter of cylinders 560 mm Length of stroke 1000 mm No. of cylinders 12 No. of cranks 12
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 770 mm Is there a bearing between each crank Yes
 Revolutions per minute 125 Flywheel dia. 2320 mm Weight 5760 kg Means of ignition Compression Kind of fuel used Distill oil F.P. 150 F.
Crank Shaft, dia. of journals as per Rule 346 mm as fitted 350 mm Crank pin dia. 350 mm Crank Webs Mid. length breadth 710 mm Thickness parallel to axis 260 mm
 as per Rule 346 mm as fitted 350-390 mm at Hub. Intermediate Shafts, diameter as per Rule 235 mm Thrust Shaft, diameter at collars as per Rule 247 mm
 as fitted 275 mm as fitted 290 mm
Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 260 mm Is the tube shaft fitted with a continuous liner Yes
 as fitted as fitted 311 mm as per rule 11.6 mm as fitted 11 mm Is the after end of the liner made watertight in the
 propeller boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Continuous

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive
 If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after
 end of the tube shaft No Length of Bearing in Stern Bush next to and supporting propeller 11176 mm
Propeller, dia. 3600 mm Pitch 3100 mm No. of blades 4 Material Bronze whether Moveable solid Total Developed Surface 39.7 sq. feet
Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when disconnected Yes Means of lubrication
forced feed Thickness of cylinder liners 50 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with
non-conducting material Yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Up Funnel.
Cooling Water Pumps, No. Three Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
Bilge Pumps worked from the Main Engines, No. 2 (1 & 15) Diameter 90 mm Stroke 400 mm Can one be overhauled while the other is at work Yes
Pumps connected to the Main Bilge Line { No. and Size 2 off 90 mm dia x 400 mm stroke | one recip: 20 ton/hr | two centrif: 150 ton/hr }
 How driven Main engine levers | motor | motor }

Ballast Pumps, No. and size 1 @ 150 ton/hr 1 @ 20 ton/hr Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 140 L/hr 1 @ 190 L/hr x 200 L/hr.
 Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
 Pumps, No. and size:—In Machinery Spaces 4 off 3 1/2" dia and one emergency 6" dia.
 In Holds, N^o 1 hold 2 @ 3 1/2" dia N^o 2 hold 2 @ 3 1/2" dia N^o 3 hold 2 @ 3 1/2" dia N^o 4 hold 2 @ 3 1/2" dia 1 @ 3" dia
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one off 6" dia.
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces
 led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes (Mud box + Distrib. Chest one Casting)
 Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Both
 Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes Are the Overboard Discharges above or below the deep water line above
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes
 What pipes pass through the bunkers How are they protected
 What pipes pass through the deep tanks Have they been tested as per Rule
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one
 compartment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper Platform

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
Main Air Compressors, No. one on each M.E No. of stages 3 Diameters 93-230-450 mm Stroke 400 mm Driven by Main Eng. levers
Auxiliary Air Compressors, No. one No. of stages 3 in tandem Diameters 90-320-360 mm Stroke 300 mm Driven by motor
Small Auxiliary Air Compressors, No. one No. of stages 2 Diameters 34-106 mm Stroke 160 mm Driven by Steam engine
Scavenging Air Pumps, No. Diameter Stroke Driven by
Auxiliary Engines crank shafts, diameter as per Rule 189 mm as fitted 185 mm dia 3 @ 70 Kw each.

IR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule. Safety valves fitted on air compressors discharge.
 Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Steam Conn: fitted
 Is there a drain arrangement fitted at the lowest part of each receiver Yes
High Pressure Air Receivers, No. 3 Cubic capacity of each 2 @ 230 lbs 1 @ 75 lbs Internal diameter 15 1/16" & 9 9/16" thickness 27/32" & 19/32"
 Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength Unknown Working pressure by Rules 1530 & 1760 lbs
Starting Air Receivers, No. 4 off Total cubic capacity 1360 cu ft Internal diameter 1650 mm thickness 20 mm
 Seamless, lap welded or riveted longitudinal joint YES Material Steel Range of tensile strength SAE 28-32 Working pressure by Rules 19.8 kg/cm²



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IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

PLANS. Are approved plans forwarded herewith for ^{Crank}Shafting *Yes*
(If not, state date of approval)

L.P. Receivers *YES*

Separate Tanks *Yes*

Donkey Boiler *Yes*

General Pumping Arrangements *Yes*

Oil Fuel Burning Arrangements *Yes*

SPARE GEAR

2 cylinder liners with covers & valves complete for main engine

6 fuel & air & exhaust valves & springs complete for main engine & 3 off for Aux. engine

5 pistons with rings & 2 set piston rings for main engine one piston & 2 set rings for aux. engine

2 sets of telescopic piston cooling pipes for main engine

4 top end & 2 bottom end bearing bolts, ^{nuts} & 2 main bearing bolts, ^{nuts} for main engine

1 set main bearing trusses for main & aux. engine & Aux. compressor

1 set crank pin " " " " " " " " " "

1 set crosshead trusses for main engine, 1 set crank & 1 set tunnel shaft coupling bolts

1 set of piston rings for each air compressor & 1 set of valves for aux. air compressor.

also a large number of spare parts for all auxiliary machinery

one grinder, one lathe, one shaping machine & one boring machine in work shop.

also a quantity of hand tools, bolts, nuts, & iron of various sizes

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
{ During progress of work in shops - -
{ During erection on board vessel - -
Total No. of visits

Dates of Examination of principal parts—Cylinders Covers Pistons Rods Connecting rods

Crank shaft Flywheel shaft Thrust shaft Intermediate shafts Tube shaft

Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions *24-11-28*

Crank shaft, Material *Steel* Identification Mark Flywheel shaft, Material *Steel* Identification Mark

Thrust shaft, Material *do* Identification Mark Intermediate shafts, Material *do* Identification Marks

Tube shaft, Material *do* Identification Mark Screw shaft, Material *do* Identification Mark

Is the flash point of the oil to be used over 150° F. *Yes*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)

All parts of the main & auxiliary machinery of this vessel has been opened up & examined, the scantlings verified by actual measurement, & all found or now placed in good order. The H.P. air receiver ^{& piping} were tested by a water pressure of 1850 lbs per sq in and the L.P. receiver were tested by a water pressure of 434 lbs & all found good & tight. All air compressor intercoolers & oil coolers have been tested to twice their working pressure & found good & sound.

This machinery has been tried under full load working conditions with satisfactory results, & it is recommended that the notation L.M.C. be assigned in the Register Book.

The vessel is fitted for oil fuel (F.P. above 150° F. min) & the requirements of section 20 of the Rules are now generally complied with, with the exception of, the suction pipes leading from the O.P. tunnel settling tanks, into the engine room, are not fitted with valves at the engine room bulk head, and the suction valves on these tanks are not controlled from outside the compartment in which they are situated. For Particulars of the machinery survey see other sheet.

The amount of Entry Fee ... *£ 63.65* : When applied for, *1/12/28* 19

Special ... *£ 728.75* : When received, *29.1.29* 19

Donkey Boiler Fee ... *£* : *✓*

Travelling Expenses (if any) *£* : *✓*

H.D. Buchanan.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

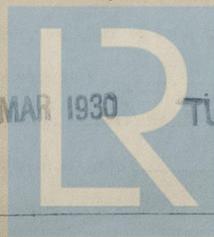
FRI. 11 JAN 1929

TUE. 11 MAR 1930

TUE. 12 AUG 1930

Assigned

See rpt. attached



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Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.